

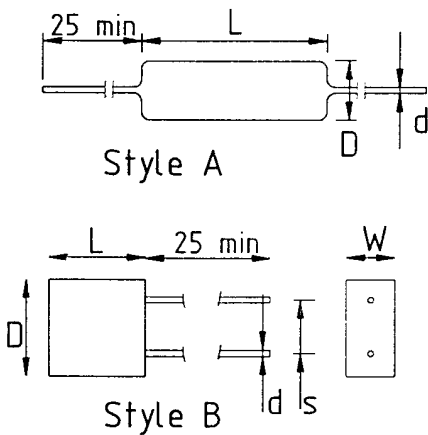


Series **UPW**

ULTRA PRECISION WIRE WOUND RESISTORS

Superior quality wire wound resistors with very low selection tolerances and temperature coefficients down to 1ppm. 3 case sizes are available. T/C, ratio and pair matching is available and customer specifications are welcome. These components exhibit high stability under load and severe environmental conditions.

OUTLINE DIAGRAM



DIMENSIONS

Type	Style	L	D	W	s	d
		± 0.4	± 0.4	± 0.5	± 0.2	nom
UPW 25	A	9.53	4.75	====	====	0.64
UPW 30	B	7.62	7.62	3.18	3.81	0.64
UPW 50	A	12.7	6.35	====	====	0.81

RATINGS AND CHARACTERISTICS

	Units	UPW 25	UPW 30	UPW 50
Rated power @ 125 °C	Watts	0.25	0.3	0.5
Derate to zero power at 145 °C				
Resistance range	Min	0R10	0R10	0R10
	Max	1M0	1M0	2M0
Standard tolerances	%	0.005, 0.01, 0.02, 0.05, 0.1, 0.2, 0.5, 1		
Limiting element voltage	Volts	300	150	400
Temperature coefficient	Typical	± 3 (0 °C to +85°C)		
	Maximum	± 5 (-55 °C to +125 °C)		
		± 1 available on request		
Operating Temperature Range		-55 °C to +145 °C		
Long term stability (load)		< 50 ppm @ 10,000 hrs < 100 ppm @ 26,000 hrs		
Thermal EMF		< 0.2 µV /°C		

TECHNOLOGY AND SUGGESTED APPLICATIONS

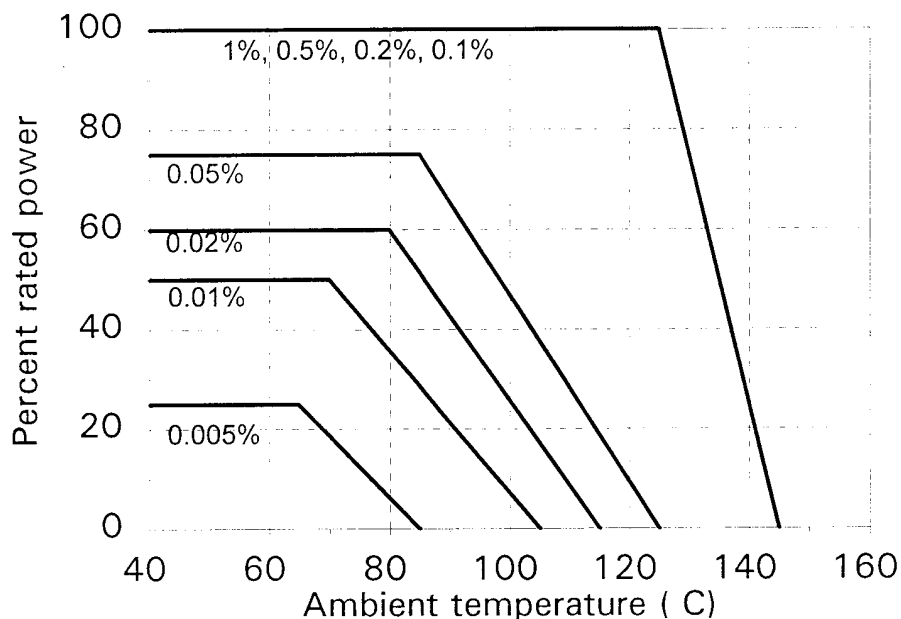
The resistive element is wire wound onto a moulded high temperature plastic bobbin with a central former. The direction of winding is reversed part way through the winding, giving very low values of inductance. Neohm uses bobbin assemblies with flattened lead ends, providing high resistance to pull, vibration and torsional forces during handling, assembly and life. Custom weld tabs and copper weld leads ensure a good

mechanical and electrical connection between the element and the lead wires. Protection is given to the windings by means of a layer of silicone RTV rubber, allowing movement of the windings during temperature cycling due to loads and to varying ambient temperatures. Outer protection is given by means of a hot transfer moulded epoxy compound which ensures an airtight coating with no trapped air.

DERATING

UPW Series resistors must be derated for tolerances below 0.1%. Use the graph to select tolerance versus operating temperature to determine the percentage rated power for operation.

No derating is required for operation below 20 °C



MOUNTING

The resistors are suitable for processing on automatic insertion equipment and cutting and bending machines.

PERFORMANCE CHARACTERISTICS

The evaluation of the performance characteristics is carried out with reference to IECQ Specifications QC 400 000 and QC 400 100

Long term tests ±(0.25% + 0.05ohm)		Short term tests ±(0.1% + 0.01ohm)	
Test ref		Test ref	
4.23	Climatic sequence	4.13	Overload
4.24	Damp heat, steady state	4.16	Robustness of terminations
4.25.1	Endurance at 70 °C	4.18	Resistance to soldering heat
4.25.3	Endurance at 125 °C	4.19	Rapid change of temperature
		4.22	Vibration

All resistance values are measured at a distance of 9.53 mm (0.375 inch) from the end cap.

PACKAGING

UPW Series resistors are packed loose in boxes

MARKING

The resistors are marked with the following information:-

Manufacturer's name;
Type number;
Value and tolerance;
Four figure date code.

ORDERING INFORMATION

Orders for these components should include the following information :-

Type, tolerance and value
e.g. UPW 30 0.01 1k15

DS420-2/2



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Croster Electronics Ltd. reserve the right to change specifications without notice

